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Federal Circuit

99-1076, -1179, -1180

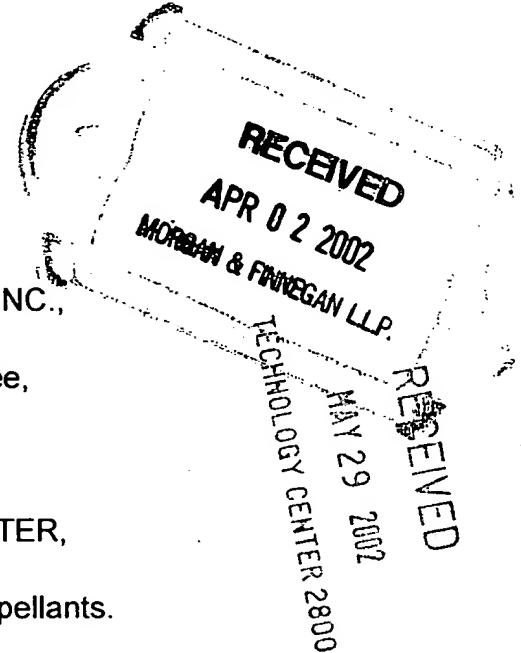
JOHNSON &amp; JOHNSTON ASSOCIATES INC.,

Plaintiff-Appellee,

v.

R.E. SERVICE CO., INC. and MARK FRATER,

Defendants-Appellants.



Donald R. Dunner, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., of Washington, DC, argued for plaintiff-appellee. With him on the brief were Thomas H. Jenkins, and Virginia L. Carron. Of counsel on the brief were Fay E. Morisseau, and Michael R. O'Neill, McDermott, Will & Emery, of Irvine, California. Also of counsel on the brief were John L. DuPre, Richard A. Wise, and Deirdre E. Sanders, Hamilton, Brook, Smith & Reynolds, P.C., of Lexington, Massachusetts.

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Appealed from: United States District Court for the Northern District of California

Judge Charles R. Breyer

# United States Court of Appeals for the Federal Circuit

99-1076, -1179, -1180

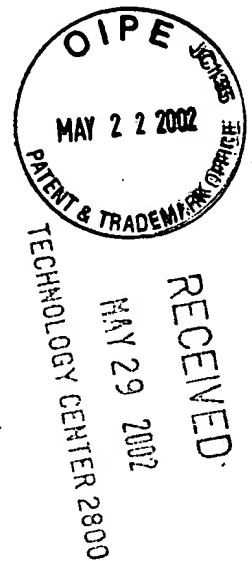
JOHNSON & JOHNSTON ASSOCIATES INC.,

Plaintiff-Appellee,

v.

R.E. SERVICE CO., INC. and MARK FRATER,

Defendants-Appellants.



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DECIDED: March 28, 2002

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Before MAYER, Chief Judge, NEWMAN, Circuit Judge, ARCHER, Senior Circuit Judge, MICHEL, LOURIE, CLEVINGER, RADER, SCHALL, BRYSON, GAJARSA, LINN, DYK, and PROST, Circuit Judges.

Opinion of the court filed PER CURIAM, in which Chief Judge MAYER, Senior Circuit Judge ARCHER, and Circuit Judges MICHEL, LOURIE, CLEVINGER, RADER, SCHALL, BRYSON, GAJARSA, LINN, DYK, and PROST join. Concurring opinion filed by Circuit Judge CLEVINGER, in which Circuit Judges LOURIE, SCHALL, GAJARSA, and DYK join. Concurring opinion filed by Circuit Judge RADER, in which Chief Judge, MAYER joins. Concurring opinion filed by Circuit Judge DYK, in which Circuit Judge LINN joins. Concurring opinion filed by Circuit Judge LOURIE. Dissenting opinion filed by Circuit Judge NEWMAN.

PER CURIAM

Johnson and Johnston Associates (Johnston) asserted United States Patent No. 5,153,050 (the '050 patent) against R.E. Service Co. and Mark Frater (collectively RES). A jury found that RES willfully infringed claims 1 and 2 of the patent under the doctrine of equivalents and awarded Johnston \$1,138,764 in damages. Upon entry of judgment, the

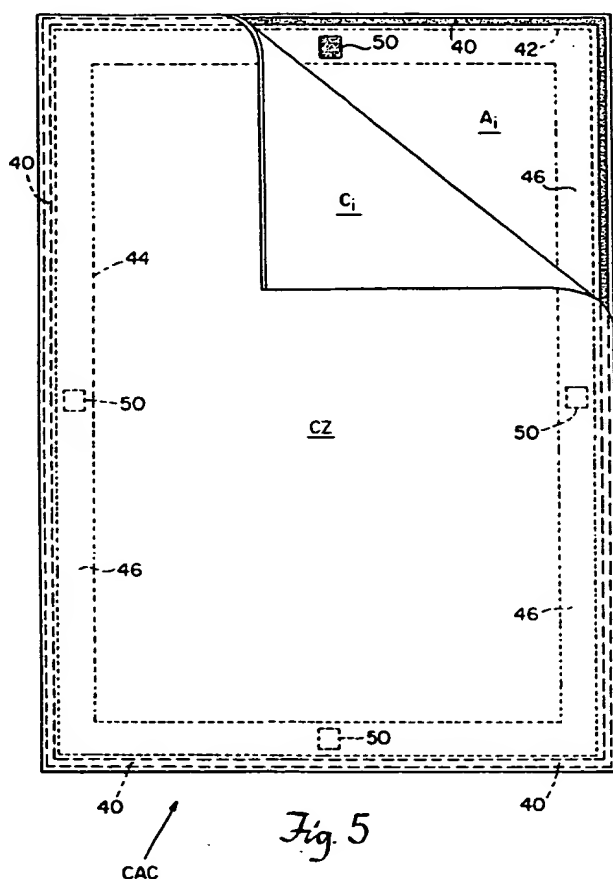
United States District Court for the Northern District of California further granted Johnston enhanced damages, attorney fees, and expenses. Johnson & Johnston Assocs. v. R.E. Serv. Co., No. C97-04382 CRB (N.D. Cal. 1998). After a hearing before a three-judge panel on December 7, 1999, this court ordered en banc rehearing of the doctrine of equivalents issue, Johnson & Johnston Assocs. v. R.E. Serv. Co., 238 F.3d 1347 (Fed. Cir. 2001), which occurred on October 3, 2001. Because this court concludes that RES, as a matter of law, could not have infringed the '050 patent under the doctrine of equivalents, this court reverses the district court's judgment of infringement under the doctrine of equivalents, willfulness, damages, attorneys fees, and expenses.

I.

The '050 patent, which issued October 6, 1992, relates to the manufacture of printed circuit boards. Printed circuit boards are composed of extremely thin sheets of conductive copper foil joined to sheets of a dielectric (nonconductive) resin-impregnated material called "prepreg." The process for making multi-layered printed circuit boards stacks sheets of copper foil and prepreg in a press, heats them to melt the resin in the prepreg, and thereby bonds the layers.

In creating these circuit boards, workers manually handle the thin sheets of copper foil during the layering process. Without the invention claimed in the '050 patent, stacking by hand can damage or contaminate the fragile foil, causing discontinuities in the etched copper circuits. The '050 patent claims an assembly that prevents most damage during manual handling. The invention adheres the fragile copper foil to a stiffer substrate sheet of aluminum. With the aluminum substrate for protection, workers can handle the

assembly without damaging the fragile copper foil. After the pressing and heating steps, workers can remove and even recycle the aluminum substrate. Figure 5 of the '050 patent shows the foil-substrate combination, with the foil layer peeled back at one corner for illustration:



Surface  $C_i$  is the protected inner surface of the copper foil;  $A_i$  is the inner surface of the aluminum substrate. A band of flexible adhesive 40 joins the substrate and the foil at the edges, creating a protected central zone CZ. The specification explains:

Because the frail, thin copper foil C was adhesively secured to its aluminum substrate A, the [laminate] is stiffer and more readily handled resulting in far fewer spoils due to damaged copper foil.

The use of the adhered substrate A, regardless of what material it is made of, makes the consumer's (manufacturer's) objective of using thinner and thinner foils and ultimately automating the procedure more realistic since the foil, by use of the invention, is no longer without the much needed physical support.

'050 patent, col. 8, ll. 21-30. The specification further describes the composition of the substrate sheet:

While aluminum is currently the preferred material for the substrate, other metals, such as stainless steel or nickel alloys, may be used. In some instances . . . polypropylene [sic] can be used.

'050 patent, col. 5, ll. 5-8.

As noted, the jury found infringement of claims 1 and 2:

Claim 1. A component for use in manufacturing articles such as printed circuit boards comprising:

a laminate constructed of a sheet of copper foil which, in a finished printed circuit board, constitutes a functional element and a sheet of aluminum which constitutes a discardable element;

one surface of each of the copper sheet and the aluminum sheet being essentially uncontaminated and engageable with each other at an interface,

a band of flexible adhesive joining the uncontaminated surfaces of the sheets together at their borders and defining a substantially uncontaminated central zone inwardly of the edges of the sheets and unjoined at the interface.

'050 patent, Claim 1, col. 8, ll. 47-60 (emphasis supplied). Claim 2 defines a similar laminate having sheets of copper foil adhered to both sides of the aluminum sheet.

The Northern District of California has patiently handled litigation between these parties over the '050 patent for many years. In prior litigation, a jury found that RES had willfully infringed the '050 patent. The district court entered the judgment under Fed. R. Civ. P. 54(b). R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-92-20672 RPA, slip op. (N.D. Cal. Jul. 29, 1994). Later the district court enforced this judgment against RES in contempt proceedings. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-92-20672 RPA, slip op. at 53-54 (N.D. Cal. Jan. 25, 1995) (Order Re Contempt); R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-92-20672 RPA, slip op. at 53-54 (N.D. Cal. Sept. 6, 1995) (Order Re: Second Contempt). Ultimately the parties settled these disputes. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-92-20672 RPA, slip op. at 3 (N.D. Cal. Nov. 1, 1995) (Stipulated Order Enjoining Further Manufacture, Use or Sale and Final Judgment).

In 1997, RES began making new laminates for manufacture of printed circuit boards. The RES products, designated "SC2" and "SC3," joined copper foil to a sheet of steel as the substrate instead of a sheet of aluminum. Johnston filed a suit for infringement. See R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-97-04382 CRB, slip op. at 2 (N.D. Cal. Dec. 23, 1998). In this case, the district court granted RES's motion for summary judgment of no literal infringement. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-97-04382 CRB, slip op. (N.D. Cal. Aug. 24, 1998). With respect to the doctrine of equivalents, RES argued, citing Maxwell v. J. Baker, Inc., 86 F.3d 1098, 39

USPQ2d 1001 (Fed. Cir. 1996), that the '050 specification, which disclosed a steel substrate but did not claim it, constituted a dedication of the steel substrate to the public.

Johnston argued that the steel substrate was not dedicated to the public, citing YBM Magnex, Inc. v. Int'l Trade Comm'n, 145 F.3d 1317, 46 USPQ2d 1843 (Fed. Cir. 1998).

On cross-motions for summary judgment, the district court ruled that the '050 patent did not dedicate the steel substrate to the public, and set the question of infringement by equivalents for trial, along with the issues of damages and willful infringement. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-97-04382 CRB, slip op. (N.D. Cal. Aug. 24, 1998).

The jury found RES liable for willful infringement under the doctrine of equivalents and awarded Johnston \$1,138,764 in damages. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-97-04382 CRB, slip op. at 4 (N.D. Cal. Dec. 23, 1998) (noting the Oct. 22, 1998 jury verdict). Exercising its discretion under 35 U.S.C. § 284, the district court enhanced Johnston's damages -- doubling the jury's assessment for lost profits and reasonable royalties, but not for price erosion. R.E. Serv. Co. v. Johnson & Johnston Assocs., No. C-97-04382 CRB, slip op. (N.D. Cal. Nov. 30, 1998). The court also awarded attorney fees and expenses under 35 U.S.C. § 285. Id.

## II.

On appeal, RES does not challenge the jury's factual finding of equivalency between the copper-steel and copper-aluminum laminates. Instead, citing Maxwell, RES argues that Johnston did not claim steel substrates, but limited its patent scope to aluminum substrates, thus dedicating to the public this unclaimed subject matter. On this



ground, RES challenges the district court's denial of its motion for summary judgment that RES's copper-steel laminates are not equivalent, as a matter of law, to the claimed copper-aluminum laminates. Johnston responds that the steel substrates are not dedicated to the public, citing YBM Magnex. In other words, the two parties dispute whether Maxwell or YBM Magnex applies in this case with regard to infringement under the doctrine of equivalents.

In Maxwell, the patent claimed a system for attaching together a mated pair of shoes. 86 F.3d at 1101-02. Maxwell claimed fastening tabs between the inner and outer soles of the attached shoes. Maxwell disclosed in the specification, but did not claim, fastening tabs that could be "stitched into a lining seam of the shoes." U.S. Patent No. 4,624,060, col. 2, l. 42. Based on the "well-established rule that 'subject matter disclosed but not claimed in a patent application is dedicated to the public,'" this court held that Baker could not, as a matter of law, infringe under the doctrine of equivalents by using the disclosed but unclaimed shoe attachment system. Maxwell, 86 F.3d at 1106 (quoting Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562-63, 19 USPQ2d 1500, 1504 (Fed. Cir. 1991)). This court stated further:

By [Maxwell's failure] to claim these alternatives, the Patent and Trademark Office was deprived of the opportunity to consider whether these alternatives were patentable. A person of ordinary skill in the shoe industry, reading the specification and prosecution history, and interpreting the claims, would conclude that Maxwell, by failing to claim the alternate shoe attachment systems in which the tabs were attached to the inside shoe lining, dedicated the use of such systems to the public.

Maxwell, 86 F.3d at 1108.

In YBM Magnex, the patent claimed a permanent magnet alloy comprising certain elements, including "6,000 to 35,000 ppm oxygen." U.S. Patent No. 4,588,439 (the '439 patent), col. 3, l. 12. The accused infringer used similar magnet alloys with an oxygen content between 5,450 and 6,000 ppm (parts per million), which was allegedly disclosed but not claimed in the '439 patent. In YBM Magnex, this court stated that Maxwell did not create a new rule of law that doctrine of equivalents could never encompass subject matter disclosed in the specification but not claimed. 145 F.3d at 1321. Distinguishing Maxwell, this court noted:

Maxwell avoided examination of the unclaimed alternative, which was distinct from the claimed alternative. In view of the distinctness of the two embodiments, both of which were fully described in the specification, the Federal Circuit denied Maxwell the opportunity to enforce the unclaimed embodiment as an equivalent of the one that was claimed.

Id. at 1320. In other words, this court in YBM Magnex purported to limit Maxwell to situations where a patent discloses an unclaimed alternative distinct from the claimed invention. Thus, this court must decide whether a patentee can apply the doctrine of equivalents to cover unclaimed subject matter disclosed in the specification.

### III.

Both the Supreme Court and this court have adhered to the fundamental principle that claims define the scope of patent protection. See, e.g., Aro Mfg. v. Convertible Top Replacement Co., 365 U.S. 336, 339 (1961) ("[T]he claims made in the patent are the sole measure of the grant . . ."); Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 419 (1908) ("[T]he claims measure the invention."); Atl. Thermoplastics Co. v. Faytex Corp., 974 F.2d 1299, 1300, 24 USPQ2d 1138, 1139-40 (Fed. Cir. 1992) ("The claims alone

define the patent right.”); SRI Int’l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121, 227 USPQ 577, 585 (Fed. Cir. 1985) (“It is the claims that measure the invention.”). The claims thus give notice of the scope of patent protection. See, e.g., Mahn v. Harwood, 112 U.S. 354, 361 (1884) (“The public is notified and informed by the most solemn act on the part of the patentee, that his claim to invention is for such and such an element or combination, and for nothing more.”). The claims give notice both to the examiner at the U.S. Patent and Trademark Office during prosecution, and to the public at large, including potential competitors, after the patent has issued.

Consistent with its scope definition and notice functions, the claim requirement presupposes that a patent applicant defines his invention in the claims, not in the specification. After all, the claims, not the specification, provide the measure of the patentee’s right to exclude. Milcor Steel Co. v. George A. Fuller Co., 316 U.S. 143, 146 (1942) (“Out of all the possible permutations of elements which can be made from the specifications, he reserves for himself only those contained in the claims.”) (quoting Milcor Steel Co. v. George A. Fuller Co., 122 F.2d 292, 294 (2d Cir. 1941)); Cont’l Paper Bag, 210 U.S. at 419 (“The invention, of course, must be described and the mode of putting it to practical use, but the claims measure the invention.”); McClain v. Ortmayer, 141 U.S. 419, 424 (1891) (“The claim is the measure of his right to relief, and while the specification may be referred to to limit the claim, it can never be made available to expand it.”); SRI Int’l, 775 F.2d at 1121, n.14 (“Specifications teach. Claims claim.”).

Moreover, the law of infringement compares the accused product with the claims

as construed by the court. Infringement, either literally or under the doctrine of equivalents, does not arise by comparing the accused product “with a preferred embodiment described in the specification, or with a commercialized embodiment of the patentee.” SRI Int’l, 775 F.2d at 1121.

Even as early as the 1880s, the Supreme Court emphasized the predominant role of claims. For example, in Miller v. Bridgeport Brass Co., a case addressing a reissue patent filed fifteen years after the original patent, the Supreme Court broadly stated: “[T]he claim of a specific device or combination, and an omission to claim other devices or combinations apparent on the face of the patent, are, in law, a dedication to the public of that which is not claimed.” 104 U.S. 350, 352 (1881). Just a few years later, the Court repeated that sentiment in another reissue patent case: “[T]he claim actually made operates in law as a disclaimer of what is not claimed; and of all this the law charges the patentee with the fullest notice.” Mahn, 112 U.S. at 361. The Court explained further:

Of course, what is not claimed is public property. The presumption is, and such is generally the fact, that what is not claimed was not invented by the patentee, but was known and used before he made his invention. But, whether so or not, his own act has made it public property if it was not so before. The patent itself, as soon as it is issued, is the evidence of this. The public has the undoubted right to use, and it is to be presumed does use, what is not specifically claimed in the patent.

Id. at 361.

The doctrine of equivalents extends the right to exclude beyond the literal scope of the claims. The Supreme Court first applied the modern doctrine of equivalents in Graver Tank & Mfg. Co. v. Linde Air Prods. Co. (Graver II). In that case, the Court explained: “equivalency must be determined against the context of the patent, the prior art, and the

particular circumstances of the case.” 339 U.S. 605, 609 (1950). In Graver I, a predecessor case addressing the validity of the claims at issue, the Court held invalid composition claims 24 and 26 comprising “silicates” and “metallic silicates.” Graver Tank & Mfg. v. Linde Air Prods. Co., 336 U.S. 271, 276-77 (1949) (Graver I). Specifically, the Court found those claims too broad because they encompassed some inoperative silicates along with the nine operative metallic silicates in the specification. Id. at 276. The Court did not hold invalid narrower claims comprising “alkaline earth metals.”

Thus, in the infringement action of Graver II, the Supreme Court addressed only the narrower claims comprising “alkaline earth metals.” The alleged infringing compositions in Graver II are similar to the compositions of the narrower claims, except that they substitute silicate of manganese – a metallic silicate such as in the earlier invalidated claims -- for silicates of “alkaline earth metals” (e.g., magnesium or calcium) claimed in the narrower claims. Because the Court determined that “under the circumstances the change was so insubstantial,” and because the accused compositions “perform[ed] substantially the same function in substantially the same way to obtain the same result,” the Court upheld the finding of infringement under the doctrine of equivalents. Graver II, 339 U.S. at 608-10 (quoting Sanitary Refrigerator Co. v. Winters, 280 U.S. 30, 42 (1929)). The Court’s holding and the history of Graver II show that the patentee had not dedicated unclaimed subject matter to the public. In fact, the patentee had claimed the “equivalent” subject matter, even if the Court eventually held the relevant claims too broad.<sup>1</sup>

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<sup>1</sup> This court respectfully disagrees with the statement in the dissent that: “There was no claim to manganese silicate.” As earlier explained, composition claims 24 and 26 comprising “silicates” and “metallic silicates” were broad enough to encompass

In 1997, less than a year after this court decided Maxwell, the Supreme Court addressed the doctrine of equivalents again in Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17. In that case, Warner-Jenkinson invited the Court “to speak the death” of the doctrine of equivalents. Id. at 21. The Court declined that invitation. In Warner-Jenkinson, the patentee added the phrase “at a pH from approximately 6.0 to 9.0” to claim 1 during prosecution. Id. at 22. The alleged infringer operated its ultrafiltration process at a pH of 5.0. Id. at 23. The Supreme Court stated that “while a lower limit of [pH] 6.0, by its mere inclusion, became a material element of the claim, that did not necessarily preclude the application of the doctrine of equivalents as to that element.” Id. at 32 (emphasis omitted). On remand, the Supreme Court instructed this court to determine the patentee’s reason, if any, for adding the lower pH limit of 6.0 during prosecution.

The patent at issue in Warner-Jenkinson did not disclose or suggest an ultrafiltration process where the pH of the reaction mixture was 5.0. Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 114 F.3d 1161, 1164 (Fed. Cir. 1997). In fact, the specification practically repeated the claim language: “it is preferred to adjust the pH to approximately 6.0 to 8.0 before passage through the ultrafiltration membrane.” U.S. Patent No. 4,560,746, col. 7, ll. 59-61 (emphasis added). Thus, Warner-Jenkinson did not present an instance of the

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manganese silicate. Therefore, our holding today is in no way in conflict with Graver Tank. Nor does this court agree that intent plays any role in the Maxwell rule. To the contrary, one of the advantages of the Maxwell rule is that it is a purely objective test. The patentee’s subjective intent is irrelevant to determining whether unclaimed subject matter has been disclosed and therefore dedicated to the public.

patentee dedicating subject matter to the public in its specification. In 1998, less than a year later, this court decided YBM Magnex.

V.

As stated in Maxwell, when a patent drafter discloses but declines to claim subject matter, as in this case, this action dedicates that unclaimed subject matter to the public. Application of the doctrine of equivalents to recapture subject matter deliberately left unclaimed would “conflict with the primacy of the claims in defining the scope of the patentee’s exclusive right.” Sage Prods. Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1424, 44 USPQ2d 1103, 1107 (Fed. Cir. 1997) (citing Warner Jenkinson, 520 U.S. at 29); see also Conopco, Inc. v. May Dep’t Stores Co., 46 F.3d 1556, 1562, 32 USPQ2d 1225, 1228 (Fed. Cir. 1994) (“The doctrine of equivalents cannot be used to erase ‘meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement.’” (internal citations omitted)); Charles Greiner & Co. v. Mari-Med Mfg., Inc., 962 F.2d 1031, 1036 (Fed. Cir. 1992) (“Most important, however, a court must, in applying the doctrine, avoid significant conflict with the fundamental principle that claims define the limits of patent protection.”).

Moreover, a patentee cannot narrowly claim an invention to avoid prosecution scrutiny by the PTO, and then, after patent issuance, use the doctrine of equivalents to establish infringement because the specification discloses equivalents. “Such a result would merely encourage a patent applicant to present a broad disclosure in the specification of the application and file narrow claims, avoiding examination of broader claims that the applicant could have filed consistent with the specification.” Maxwell, 86

F.3d at 1107 (citing Genentech, Inc. v. Wellcome Found. Ltd., 29 F.3d 1555, 1564, 31 USPQ2d 1161, 1167 (Fed. Cir. 1994)). By enforcing the Maxwell rule, the courts avoid the problem of extending the coverage of an exclusive right to encompass more than that properly examined by the PTO. Keystone Bridge Co. v. Phoenix Iron Co., 95 U.S. 274, 278 (1877) (“[T]he courts have no right to enlarge a patent beyond the scope of its claim as allowed by the Patent Office, or the appellate tribunal to which contested applications are referred.”).

#### IV.

In this case, Johnston’s ’050 patent specifically limited the claims to “a sheet of aluminum” and “the aluminum sheet.” The specification of the ’050 patent, however, reads: “While aluminum is currently the preferred material for the substrate, other metals, such as stainless steel or nickel alloys may be used.” Col. 5, ll. 5-10. Having disclosed without claiming the steel substrates, Johnston cannot now invoke the doctrine of equivalents to extend its aluminum limitation to encompass steel. Thus, Johnston cannot assert the doctrine of equivalents to cover the disclosed but unclaimed steel substrate. To the extent that YMB Magnex conflicts with this holding, this en banc court now overrules that case.

A patentee who inadvertently fails to claim disclosed subject matter, however, is not left without remedy. Within two years from the grant of the original patent, a patentee may file a reissue application and attempt to enlarge the scope of the original claims to include the disclosed but previously unclaimed subject matter. 35 U.S.C. § 251 (2000). In addition, a patentee can file a separate application claiming the disclosed subject matter under 35 U.S.C. § 120 (2000) (allowing filing as a continuation application if filed before



all applications in the chain issue). Notably, Johnston took advantage of the latter of the two options by filing two continuation applications that literally claim the relevant subject matter.<sup>2</sup>

### CONCLUSION

For the reasons stated above, the district court erred as a matter of law in concluding that RES infringed the '050 patent under the doctrine of equivalents by using a steel substrate. Consequently, this court reverses the district court's judgment of infringement under the doctrine of equivalents, the judgment of willful infringement, as well as the award of enhanced damages and attorney fees and expenses.

### COSTS

Each party shall bear its own costs.

### REVERSED

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<sup>2</sup> These applications issued as U.S. Patent Nos. 5,725,937 (the '937 patent) and 5,674,596 (the '596 patent) on March 10, 1998 and October 7, 1997, respectively. Claims 3 and 6 of the '596 patent claim "a metal substrate sheet," while independent claims of the '937 patent claim "a sheet of stainless steel."

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v.

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Defendants-Appellants.



CLEVENGER, Circuit Judge, with whom Circuit Judges LOURIE, SCHALL, GAJARSA, DYK join, concurring.

Judge Newman has a different view of this case than I do. It is incorrect to characterize our decision today as announcing a new rule. It is equally incorrect to characterize our decision today as a mutinous act in the light of the Supreme Court's decision in Graver Tank & Manufacturing Co. v. Linde Air Products Co., 339 U.S. 605 (1950). For the reasons stated in the opinions for the court and by Judge Dyk, our decision is not inconsistent with Graver Tank.

We did not take the case en banc to make new law. The law followed by the court in this case is old law. This law was old law when we decided Maxwell v. J. Baker, Inc., 86 F.3d 1098 (Fed. Cir. 1996), for the reasons so aptly stated in the Maxwell opinion. Id. at 1106-07. We took this case en banc because the parties and the district court perceived conflict between Judge Lourie's opinion for the court in Maxwell and Judge Newman's

opinion for the court in a later case, YBM Magnex, Inc. v. International Trade Commission, 145 F.3d 1317 (Fed. Cir. 1998).

An important task of this court is to ensure uniformity in the application of our precedent. We perform this task when we reassure the district courts and the bar that our previous decision in Maxwell states the correct rule. For the reasons stated in the court's opinion in this case, it is not possible for the older holding in Maxwell to live comfortably with the newer holding in YBM Magnex. Our choice in this case was simple: whether to overrule Maxwell or YBM Magnex.

# United States Court of Appeals for the Federal Circuit

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Defendants-Appellants.

RADER, Circuit Judge, with whom MAYER, Chief Judge, joins, concurring.

While endorsing the results and reasoning of the court, I would offer an alternative reasoning. This alternative would also help reconcile the preeminent notice function of patent claims with the protective function of the doctrine of equivalents. This reconciling principle is simple: the doctrine of equivalents does not capture subject matter that the patent drafter reasonably could have foreseen during the application process and included in the claims. This principle enhances the notice function of claims by making them the sole definition of invention scope in all foreseeable circumstances. This principle also protects patentees against copyists who employ insubstantial variations to expropriate the claimed invention in some unforeseeable circumstances.

Few problems have vexed this court more than articulating discernible standards for non-textual infringement. On the one hand, the Supreme Court has recognized that the

doctrine of equivalents provides essential protection for inventions: “[T]o permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing . . . leav[ing] room for – indeed encourag[ing] – the unscrupulous copyist to make unimportant and insubstantial changes.” Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607 (1950). The protective function of non-textual infringement, however, has a price. Recently, the Supreme Court acknowledged that a broad doctrine of equivalents can threaten the notice function of claims: “There can be no denying that the doctrine of equivalents, when applied broadly, conflicts with the definitional and public-notice functions of the statutory claiming requirement.” Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997). These competing policies make it difficult to set a standard that protects the patentee against insubstantial changes while simultaneously providing the public with adequate notice of potentially infringing behavior.

In general, the Supreme Court and this court have attempted to deal with these competing principles by placing limits on non-textual infringement. Thus, in furtherance of the notice objective, Pennwalt and Warner-Jenkinson require an equivalent for each and every element of a claim (applying the doctrine of equivalents to the claim as a whole gives too much room to enforce the claim beyond its notifying limitations). Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935, 4 USPQ2d 1737, 1740 (Fed. Cir. 1987) (citing Lemelson v. United States, 752 F.2d 1538, 1551, 224 USPQ 524, 533 (Fed. Cir. 1985)); Warner-Jenkinson, 520 U.S. at 40. Similarly, to enhance notice, Festo and Warner-Jenkinson propose to bar patentees from expanding their claim to embrace subject matter

surrendered during the patent acquisition process. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558, 564-65, 56 USPQ2d 1865, 1868-70 (Fed. Cir. 2000); Warner-Jenkinson, 520 U.S. at 34. Finally, Wilson Sporting Goods prevents the doctrine of equivalents from expanding claim scope to embrace prior art. Wilson Sporting Goods Co. v. David Geoffrey & Assocs., 904 F.2d 677, 683, 14 USPQ2d 1942, 1947-48 (Fed Cir. 1990).

Perhaps more than each of these other restraints on non-textual infringement, a foreseeability bar would concurrently serve both the predominant notice function of the claims and the protective function of the doctrine of equivalents. When one of ordinary skill in the relevant art would foresee coverage of an invention, a patent drafter has an obligation to claim those foreseeable limits. This rule enhances the notice function of claims by making them the sole definition of invention scope in all foreseeable circumstances. When the skilled artisan cannot have foreseen a variation that copyists employ to evade the literal text of the claims, the rule permits the patentee to attempt to prove that an "insubstantial variation" warrants a finding of non-textual infringement. In either event, the claims themselves and the prior art erect a foreseeability bar that circumscribes the protective function of non-textual infringement. Thus, foreseeability sets an objective standard for assessing when to apply the doctrine of equivalents.

A foreseeability bar thus places a premium on claim drafting and enhances the notice function of claims. To restate, if one of ordinary skill in the relevant art would reasonably anticipate ways to evade the literal claim language, the patent applicant has an obligation to cast its claims to provide notice of that coverage. In other words, the

patentee has an obligation to draft claims that capture all reasonably foreseeable ways to practice the invention. The doctrine of equivalents would not rescue a claim drafter who does not provide such notice. Foreseeability thus places a premium on notice while reserving a limited role for the protective function of the doctrine of equivalents.

This court actually already has articulated this foreseeability principle in the context of the doctrine of equivalents. Six months after the Supreme Court decided Warner-Jenkinson, this court decided Sage Prods. Inc. v. Devon Indus., Inc., 126 F.3d 1420, 44 USPQ2d 1103 (Fed. Cir. 1997). In that case, this court found no infringement, either literally or under the doctrine of equivalents, of a patent on a disposal system for sharp medical instruments. Id. at 1421. When addressing the doctrine of equivalents issue, this court applied the foreseeability bar:

The claim at issue defines a relatively simple structural device. A skilled patent drafter would foresee the limiting potential of the "over said slot" limitation. No subtlety of language or complexity of the technology, nor any subsequent change in the state of the art, such as later-developed technology, obfuscated the significance of this limitation at the time of its incorporation into the claim. If Sage desired broad patent protection for any container that performed a function similar to its claimed container, it could have sought claims with fewer structural encumbrances. Had Sage done so, then the Patent and Trademark Office (PTO) could have fulfilled its statutory role in helping to ensure that exclusive rights issue only to those who have, in fact, contributed something new, useful, and unobvious. Instead, Sage left the PTO with manifestly limited claims that it now seeks to expand through the doctrine of equivalents. However, as between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure.

Id. at 1425 (emphasis added; footnotes and citations omitted). The Sage court emphasized that a "skilled patent drafter would foresee the limiting potential of the 'over the slot' limitation." Id. Thus, the court barred application of the doctrine of equivalents "for

this foreseeable alteration of [the] claimed structure.” Id.

In Sage, this court also noted specifically some types of subject matter that may not be foreseeable during the application process – subject matter arising from a “subsequent change in the state of the art, such as later-developed technology,” id.; see also Warner-Jenkinson, 520 U.S. at 37 (noting that the doctrine extends to after-arising technology); Al-Site Corp. v. VSI Int’l, Inc., 174 F.3d 1308, 1320, 50 USPQ2d 1161, 1168 (Fed. Cir. 1999) (“An ‘after-arising’ technology could thus infringe under the doctrine of equivalents without infringing literally as a § 112, ¶ 6 equivalent.”); Pennwalt, 833 F.2d at 938 (“[T]he facts here do not involve later-developed computer technology which should be deemed within the scope of the claims to avoid the pirating of an invention.”), or subject matter cloaked by the “subtlety of language or complexity of the technology,” 126 F.3d at 1425; see also Mahn v. Harwood, 112 U.S. 354, 361 (1884) (“If the specification is complicated and the claim is ambiguous or involved, the patentee may be entitled to greater indulgence; and of this the court can rightfully judge in each case.”).

Sage is not the only case to acknowledge the value of a foreseeability limit on non-textual infringement. Fin Control Sys. PTY, Ltd v. OAM, Inc., 265 F.3d 1311, 1320-21, 60 USPQ2d 1203, 1209-10 (Fed. Cir. 2001); Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1346-47, 58 USPQ2d 1059, 1066-67 (Fed. Cir. 2001); Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206 F.3d 1408, 1416, 54 USPQ2d 1141, 1147 (Fed. Cir. 2000); Moore U.S.A, Inc. v. Standard Register Co., 229 F.3d 1091, 1106, 56 USPQ2d 1225, 1235 (Fed. Cir. 2000); Antonious v. Spalding & Evenflo Cos., 44 F. Supp. 2d 732, 738 (D. Md. 1998), aff’d in part, rev’d in part, 217 F.3d 849 (Fed. Cir.



1999); Kinzenbaw v. Deere & Co., 741 F.2d 383, 389, 222 USPQ 929, 933 (Fed. Cir. 1984). In one of those cases, Kinzenbaw v. Deere & Co., this court concluded that the “doctrine of equivalents is designed to protect inventors from unscrupulous copyists . . . and unanticipated equivalents.” 741 F.2d at 389 (emphasis added). Referencing a case involving after-arising technology, the Federal Circuit did not require the patent applicant to claim “all future developments which enable the practice of [each limitation of] his invention in substantially the same way.” Id. (quoting Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1362, 219 USPQ 473, 481 (Fed. Cir. 1983) (a case involving after-arising technology, namely microprocessors installed on board a satellite)). In other words, the court acknowledged the role of foreseeability in enforcing the doctrine of equivalents. Nonetheless, prosecution history estoppel precluded the patentee’s reliance on non-textual infringement. The court explained further that the variation from the claims was neither copied nor unforeseeable to the patentee at the time of filing. In reaching this result, the court suggested that if variation had been unforeseeable during the application process, the doctrine of equivalents would still have been available to the patentee. Id.

Finally, turning more specifically to the issue in this case, in Maxwell v. J. Baker, Inc., 86 F.3d 1098, 39 USPQ2d 1001 (Fed. Cir. 1996), this court again dealt with the doctrine of equivalents. This court found that “Maxwell limited her claims to fastening tabs attached between the inner and outer soles.” Id. at 1108. This court underscored that one of ordinary skill in the shoe industry would have discerned from reading the patent that the drafter could have foreseen and claimed the alternative shoe attachment system, but declined to do so. Id. Thus, this court concluded that Maxwell had dedicated the

alternative attachment system to the public. Id. While not expressly invoking foreseeability as in Sage and Kinzenbaw, this court relied on the perspective of one of skill in the art, thus suggesting that objective foreseeability adds weight to its foreclosure of equivalents.

In this case, Johnston's '050 patent claimed only a "sheet of aluminum" and "the aluminum sheet" – twice specifying the aluminum limitation. The patent specification then expressly mentioned other potential substrate metals, including stainless steel. col. 5, ll. 5-10. Johnston's patent disclosure expressly admits that it foresaw other metals serving as substrates. Yet the patent did not claim anything beyond aluminum. Foreseeability bars Johnston from recapturing as an equivalent subject matter not claimed but disclosed.

In Sage terms, "as between [Johnston] who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is [Johnston] who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure." 126 F.3d at 1425.

Foreseeability relegates non-textual infringement to its appropriate exceptional place in patent policy. The doctrine of equivalents should not rescue claim drafters who fail to give accurate notice of an invention's scope in the claims. The Patent Act supplies a correction process for applicants who have claimed "more or less than [they] had a right to claim in the patent." 35 U.S.C. §§ 251, 252 (2001). The doctrine of equivalents need not duplicate the statute's means of correcting claiming errors.

Implicit in the protective function of the doctrine of equivalents is the notion that the patentees could not have protected themselves with reasonable care and foresight. Enforcing this Sage principle more aggressively will help achieve a better balance between

the notice function of claims and the protective function of non-textual infringement.